CLAIMS

What is claimed is:

1. An ejector nozzle, comprising

a conical tube disposed about coaxially with a fuel injector nozzle, said conical tube comprising open first and second ends, wherein said first end is disposed proximal to said injector nozzle and comprises a diameter smaller then a diameter of said second end; and

means for supporting said conical tube at a fixed distance away from said fuel injector nozzle.

2. The ejector nozzle of claim **1**, wherein said conical tube further comprises a substantially flat interior wall disposed between said first and second ends.

3. The ejector nozzle of claim **2**, wherein said conical tube further comprises a fairing structure disposed at said first end.

4. The ejector nozzle of claim **3**, wherein said fairing structure comprises a rolled annulus and extending outward from said first end and away from said interior wall, said rolled annulus is disposed about a center line adjacent to and in the plane of said first end.

5. The ejector nozzle of claim **4**, wherein said rolled annulus has a third diameter about 0.5 to about 0.8 times said first diameter.

6. The ejector nozzle of claim **4**, wherein said center line has a fourth diameter about equal to the sum of said first and said third diameters.

7. The ejector nozzle of claim 1, wherein said interior wall is angled outward from a central axis at about 7° to about 9°.

8. The ejector nozzle of claim 1, wherein said conical tube further comprises a length about equal to 1 to about 4 times said first diameter.

9. A fuel injector system wherein said ejector nozzle of claim 1 is disposed above said fuel injector jet at a distance equal to about 1 to about 2 times said first diameter.

10. An ejector nozzle, comprising

a conical funnel disposed about coaxially with a fuel injection nozzle, said conical funnel comprising:

a length;

an open inlet end having a first diameter;

an open outlet end opposite said inlet end, said outlet end having a second diameter greater than said first diameter; and

a substantially flat interior wall disposed between said inlet and said outlet ends and terminating at said inlet end in a rolled edge directed outward and away from said interior wall and about a center line in the plane of said inlet end, said rolled edge having a third diameter, wherein said center line has a fourth diameter about equal to the sum of said first and said third diameters; and

means for supporting said conical duct above said injector nozzle at a distance from said inlet end.